



Chukar

Alectoris chukar

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GENERAL RANGE AND WASHINGTON DISTRIBUTION

Chukars are native to Asia, the Middle East, and southern Europe. They have been introduced into rocky, arid, mountainous areas from southern British Columbia south to Baja California and east to western Colorado (Udvardy 1977, Dunn et al. 1987). In southern Alberta, Arizona, New Mexico, and South Dakota only remnant populations exist (Johnsgard 1973).

In Washington, chukars are mainly found along deep river canyons in the arid regions east of the Cascade Mountains. The primary management zone includes portions of the middle and upper Columbia River and its tributaries, the Banks Lake area, the lower Yakima River and its tributaries, and the eastern portion of the Snake River (see Figure 1).

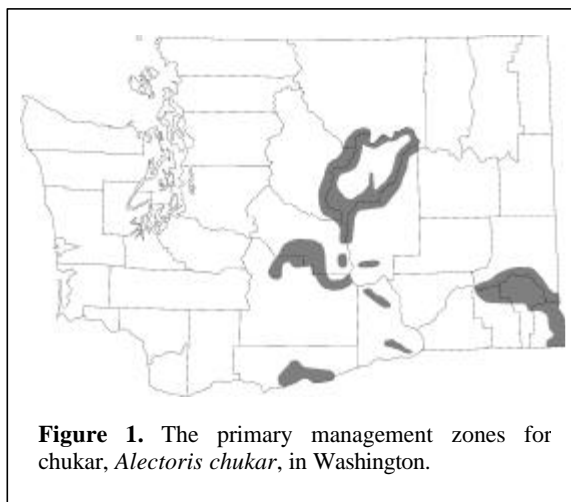


Figure 1. The primary management zones for chukar, *Alectoris chukar*, in Washington.

RATIONALE

The chukar, a recreationally important game bird, is one of the most popular upland game species in Washington. From 1991 to 1995, an average of 8,000 hunters a year reported pursuing chukars in Washington. Habitat is limited by the availability of talus or rocky slopes.

HABITAT REQUIREMENTS

Chukars flourish in mesic (moist) and semi-arid portions of shrub-steppe habitat characterized by steep, rocky, dry slopes (Galbreath and Moreland 1953, Christensen 1954, Molini 1976, Oelklaus 1976, Carmi-Winkler et al. 1987). The habitat is described as dense to open, with non-spiny shrubs, perennial and annual grasses, and forbs (Molini 1976). Galbreath and Moreland (1953) and Molini (1976) identified the optimum range as 50% sagebrush

(*Artemisia* spp.)-cheatgrass (*Bromus tectorum*)-bunchgrass (*Agropyron* spp.); 45% talus slope, rock outcrops, cliffs, and bluffs; 5% brushy creek bottoms and swales; and steep slopes (up to 40).

In Washington, chukar habitat consists of talus areas containing brome-grasses, bunchgrasses, and sagebrush at elevations of 175-1,220 m (575-4,000 ft) (Moreland 1950). Oelklaus (1976) found Douglas hackberry (*Celtis douglasii*) communities, smooth sumac (*Rhus glabra*) stands, and poison ivy (*Toxicodendron* spp.) clones along rivers and riparian corridors used extensively by chukars throughout the Snake and Columbia river canyons. Chukars are apparently not agricultural inhabitants and typically exist in areas unoccupied by other upland birds (Moreland 1950). Big sagebrush (*Artemisia tridentata*) is the predominant shrub and cheatgrass brome the predominant grass throughout the chukar range (Galbreath and Moreland 1953, Molini 1976). However, a variety of native and non-native shrubs and grasses are used.

Nesting

Most chukar nests are located under low-growing scabland sagebrush, 90-120 m (300-400 ft) above creek bottoms in heavy sagebrush areas mixed with bunch- and brome-grasses (Galbreath and Moreland 1953). Hens may also seek more gentle terrain in which to nest (Alkon 1983).

Roosting, Loafing, and Dusting Sites

Chukars typically roost and loaf on the ground beneath sagebrush, under rock outcrops, or in open rocky areas (Christensen 1970). Chukars often roost on peninsulas. Rock outcrops, Douglas hackberry, and smooth sumac communities may be used for loafing (Oelklaus 1976) depending on availability. Dusting is very important and occurs alongside trails and roads, or near water sites (Christensen 1970).

Food

Chukars feed primarily on exotic grasses and the seeds of weedy forbs (Galbreath and Moreland 1953, Bohl 1957, Christensen 1970, Kam et al. 1987). Cheatgrass (both seeds and leaves) is the most important yearly food item for chukars throughout their range (Galbreath and Moreland 1953, Harper et al. 1958, Christensen 1970). In Washington, cheatgrass and wheat comprise the main diet of the chukar year-round (Galbreath and Moreland 1953). When chukars are in close proximity to agricultural fields, they may feed on available grains, seeds, and green shoots (Sandfort 1954, Christensen 1970). Insects are an important source of food during the summer and early fall (W. Molini, personal communication).

Water

The summer range of the chukar depends upon the distribution and availability of water (Galbreath and Moreland 1953, Christensen 1970). Oelklaus (1976) consistently found chukars concentrated around rivers and tributaries in Idaho. Oelklaus (1976) also found chukars moving away from tributaries that dried up in the summer and fall to those that remained. In eastern Washington, chukars have been observed feeding on ripe fruits of hawthorne (*Crataegus* spp.), common chokecherry (*Prunus virginiana*), and serviceberry (*Amelanchier* spp.) in July and August in part to fulfill their water needs (Galbreath and Moreland 1953).

LIMITING FACTORS

Grasses, particularly cheatgrass, and water are the 2 components necessary for chukar survival (Oelklaus 1976). Severe winters may limit local populations and have been known to adversely effect chukar populations in Nevada, Idaho (Christensen 1970), and Washington (Galbreath and Moreland 1953). Low precipitation, especially droughts, are deleterious to these birds (Christensen 1958).

MANAGEMENT RECOMMENDATIONS

Of primary importance in maintaining good chukar production is the availability of green grasses, especially cheatgrass (Christensen 1958). Chukars rely on sagebrush stands within semi-arid sagebrush grasslands (Galbreath and Moreland 1953). Reduction of sagebrush within primary chukar management zones should be avoided. Management practices that significantly impact insect populations will likely decrease chukar numbers and should be avoided (W. Molini, personal communication).

The summer range of the chukar depends on the availability of water. Therefore, water improvement and development can be used to expand their distribution and possibly increase the chukar population (Christensen 1970). The protection and improvement of existing water supplies should receive priority in chukar habitat management (Christensen 1970). This would include reconstructing livestock watering troughs and other watering developments to insure a permanent water supply for chukars and other wildlife. Providing escape ramps and supplemental bird drinking basins to stock water tanks used by livestock would also benefit chukars. Gallinaceous guzzlers [1,300 L (350 gal)] placed within 45 m (148 ft) of steep, rocky escape cover or near the bottom of draws, gullies, and/or ravines provide the most benefits to chukars (W. Molini, personal communication). Chukars require some form of protective cover around water sources. Therefore, plant shrub cover around watering devices (Galbreath and Moreland 1953).

Douglas hackberry communities, sumac stands, and poison ivy clones along rivers and riparian corridors throughout the range of the chukar should be retained (Oelklaus 1976). Landowners and land managers are encouraged to use integrated pest management that targets specific pests or noxious weeds, uses pest population thresholds to determine when to use pesticides or herbicides, and utilizes crop rotation/diversity and beneficial insects to control pests (Stinson and Bromley 1991). For more information on integrated pest management, refer to Appendix A, for contacts to help assess the use of pesticides, herbicides, and their alternatives.

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KEY POINTS

Habitat Requirements

- Chukars inhabit dense to open portions of shrubland associated with perennial and annual grasses and forbs.
- Optimum range is 50% sagebrush-cheatgrass-bunchgrasses; 45% talus slope, rock outcrops, cliffs, and bluffs; 5% brushy creek bottoms and swales; and steep slopes (up to 40).
- Big sagebrush and cheatgrass predominate throughout the chuckar's range.
- Chukars nest under low-growing scrubland sagebrush, 90-120 m (300-400 ft) above creek bottoms in heavy sagebrush areas mixed with bunch- and brome-grasses.
- Chukars roost and loaf on the ground beneath sagebrush or under rock outcrops, in Douglas hackberry and in smooth sumac communities.
- Chukars dust alongside trails and roads or near water sites.
- Chukars feed mostly on cheatgrass as well as grains, seeds, and green shoots when available.

Management Recommendations

- Protect sagebrush in semi-arid sagebrush grasslands used by chukars.
- Management practices which significantly impact insect populations will likely decrease chukar numbers and should be avoided.
- Protect and/or improve existing water supplies throughout chukar range.
- Provide escape ramps and supplemental bird drinking basins to stock water tanks used by livestock.
- Gallinaceous guzzlers [1,300 L (350 gal)] placed within 45 m (148 ft) of steep, rocky escape cover or near the bottom of draws, gullies, and/or ravines provides the most benefits to chukars.
- Plant shrub cover around watering devices.
- Retain Douglas hackberry communities, sumac stands, and poison ivy clones along rivers and riparian corridors.
- Encourage the use of integrated pest management within the chukar primary management zone. For more information on integrated pest management, refer to Appendix A for contacts useful in assessing pesticides, herbicides, and their alternatives.